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VALUE OF ANIMAL AGRICULTURE TO OHIO'S ECONOMY

by

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BACKGROUND – CURRENT SITUATION *(see attached table)*

- Ohio's Agri-bioresource Industry added $33.6 billion of value to Ohio's economy in 1996, or 11% of the state's economic value added.
- **The farm production sector is the smallest sector in Ohio's Agri-bioresource Industry**, accounting for 0.9% of Ohio's total value added and 8.2% of the value added by Ohio's Agri-bioresource Industry.
- **Ohio's livestock production sector accounts for 0.15% of Ohio' total value added, smaller than the field crop, and nursery and horticulture sectors.**
- **Dairy accounts for almost one-half of the livestock production sector's total value added.** Poultry account for nearly one-fourth of the sector's total value added. Together, swine and beef account for the other one fourth.
- Processing of meat, eggs, and dairy products contribute 0.5% of Ohio's total value added, three times more than the livestock production sector contributes.

BACKGROUND – HISTORICAL TRENDS *(see attached table)*

- **During the 20th Century, Ohio's importance within the U.S. livestock production sector declined substantially for every type of livestock.** For all livestock combined, Ohio accounted for 5.8% of the value of U.S. livestock production in 1900, compared with only 1.9% of U.S. livestock sales in 1997.
- Between the two most recent Censuses of Agriculture, Ohio's share of U.S. inventory declined for turkeys (2.5% to 1.9%); hogs (3.4% to 2.8%), dairy cattle (3.1% to 2.9%), and beef cattle (1.2% to 1.1%). Sheep stayed constant at 1.7%, while chickens increased from 2.2% to 2.4%. The increase was due to layers.
- Over the 20th Century, livestock's share of Ohio's farm products did not change, but this hides major change within the century. In 1950, livestock accounted 66% of all farm product sales in Ohio. Today, the share is 40%.

POSSIBLE CAUSES OF OHIO'S DECLINE

- **Except for eggs, since the 1970s price received by Ohio's farmers for livestock products has declined relative to the U.S. average price**: -3% for beef, -2% for hogs, and -1% for milk *(see attached table)*. These might seem small, but a lower price means lower profits and profits are only a small part of price. In contrast, Ohio's relative price of eggs has increased by 7%. The question is which comes first, the decline in price or the decline in production. The best answer is that they occur concurrently, with each reinforcing the other. **Thus, change in price is as much a symptom as a cause.**
- In contrast to the relative decline in Ohio's farm price for beef, pork, and poultry; Ohio's relative farm price for corn and beans has increased by around 2% *(see attached table)*. In and of itself, **this change suggests that Ohio's farm competitive advantage has shifted from livestock to corn and soybeans.**
- Because of the availability of off-farm jobs, 72% of Ohio farmers under 65 years of age worked at least one day off the farm in 1997. For the rest of the U.S., the comparable proportion is 66%. **In short, off-farm work is a major option for farmers, especially Ohio farmers.** This option directly competes with the time-intensive nature of raising livestock.
- **The major driving force behind change in the livestock sector is economies of size.** Larger farms simply can produce livestock at a lower cost of production

than can equally well-managed small farms. For example, a recent estimate is that the cost of production for a 3400 sow farrow-to-finish operation is 18% below the costs for a 150 sow operation in the midwest *(see attached figures)*. The dollar value difference is $7.62/cwt.. To put this number in perspective, the average return above cash costs of production for U.S. hog producers in 1995-97 was $13.47/cwt. Thus, unless we are willing to legislate restrictions on farm size, this is an incredible incentive to get larger. [*Aside*: Their profit advantage means larger farms can adopt the latest environmental technologies and still remain profitable. Thus, larger farms have the potential to be less intrusive on the environment than a group of small farms producing the same level of output. Furthermore, there is no clear evidence that managers of large farms are less environmentally friendly than mangers of small farms.]

- **In the eyes of many major players in the livestock expansion game, Ohio is viewed as an inhospitable place to do business.** They cite the density of population, which they also acknowledge is an advantage; and the anti-large farm sentiment prevalent among the Ohio populace, both farm and non-farm.
- **This is the author's opinion, but I do not find that Ohio farmers, as a group, are as aggressive managers as farmers out west.** To put it briefly, Ohio farmers tend to see problems, not opportunities. Thus, they are more resistant to change, a real problem when the pace of change is accelerating.

SUMMARY

- **A lot of doom and gloom exists regarding Ohio's livestock sector, but it is important to remember that egg production is growing. This begs the question: why can't other livestock species also grow?** In turn, this suggests that the reality is not as pessimistic as the perception.
- The key question in answering this question is: **Does Ohio want to be a participant in the livestock industry?** Ohio views livestock production as a farm, not as an industry. A farm is an independent operation. An industry takes a sector view and realizes/develops interdependencies with others both within and outside the industry.
- **Ohio will always have livestock farms.** Many people want to raise some variety of livestock. However, to be profitable rather than a subsidized activity, livestock farms will need to serve niche markets, be they 4-H clubs, organic consumers, those who prefer close-to-home food, or those who prefer products grown on small farms. The latter two suggest that labeling food by size of the production unit may be important to the success of small livestock farms.
- **Largely, livestock farms will not compete with the livestock industry. The latter sees itself as the provider for the mass commercial market.** Cost of production on livestock farms will not be low enough to compete in the mass commercial market. In short, two, not one, livestock production sectors exist.
- **When all is said and done, at the present time it is not clear that Ohio will be a major participant in the livestock industry.** For it to be a player, its will to be a home to large-scale agriculture is more important than any other factor. Developing such a will requires major changes in the way Ohio approaches large-scale agriculture and Ohio's farmers approach livestock. The latter suggests that investment by farmers from outside the state of Ohio probably is important if Ohio wants a livestock industry.

Value Added by Ohio's Agri-bioresource Industry, 1996

Sector	Value Added ($ Million)	Share of Ohio's Value Added
Total Economy	**304,353.0**	**100.00%**
Agri-bioresource Sector Total	**33,626.4**	**11.05%**
Food & Forestry Wholesaling/Retailing	**12,202.6**	**4.01%**
Processing	**9,650.1**	**3.17%**
Food Processing	5,308.2	1.74%
Dairy Processing	1,077.8	0.35%
Processed Meat & Eggs	321.8	0.11%
Wood/Paper/Furniture Mfg.	4,341.9	1.43%
Food Services	**6,021.9**	**1.98%**
Farm Inputs & Machinery	**2,985.2**	**0.98%**
Farming	**2,766.6**	**0.91%**
Field Crops	1,133.6	0.37%
Nursery & Horticulture	1,010.9	0.33%
Livestock	466.7	0.15%
Forestry, Fishing, Ag Services	155.5	0.05%

Value Added by Ohio's Livestock Production Sector, 1996

Sector	$ Million	Share of Ohio
Livestock Production Sector	**$466.7**	**0.15%**
Dairy	$198.8	0.07%
Poultry & Eggs	$109.5	0.04%
Cattle Feeding	$75.0	0.02%
Swine	$69.1	0.02%
Miscellaneous Livestock[A]	$14.3	0.00%

[A]Sheep, goats and horses

SOURCE: Tom Sporleder, forthcoming report of OHFOOD Input - Output Model for 1996.

Ohio's Share of Total U.S. Livestock Sales, Selected Years, 1899 - 1997

1899*	1949	1974	1992	1997
		Percent		
5.8	3.9	2.4	2.0	1.9

Ohio's Share of U.S. Livestock Inventory, Selected Years, 1900 - 1997

Livestock	1900	1950	1974	1992	1997
			Percent		
Beef Cattle	2.4	2.1	1.5	1.2	1.1
Chickens	6.1	3.9	1.5	2.2	2.4
Dairy Cattle	4.8	4.1	3.6	3.1	2.9
Hogs	5.1	5.7	4.0	3.4	2.8
Sheep	6.5	3.6	3.0	1.7	1.7
Turkeys	5.5	3.3	2.8	2.5	1.9

Livestock's Share of All Ag Products, Ohio, Selected Years, 1899 - 1997

1899*	1949	1974	1992	1997
		Percent		
39.8	65.9	41.4	43.9	39.6

* For 1899, value of production is used. For all other years, sales are used.

SOURCE: *Censuses of Agriculture, selected years, 1900 - 1997*

Average Price Received for Selected Commodities by Ohio and U.S. Farmers by Decades Since 1970

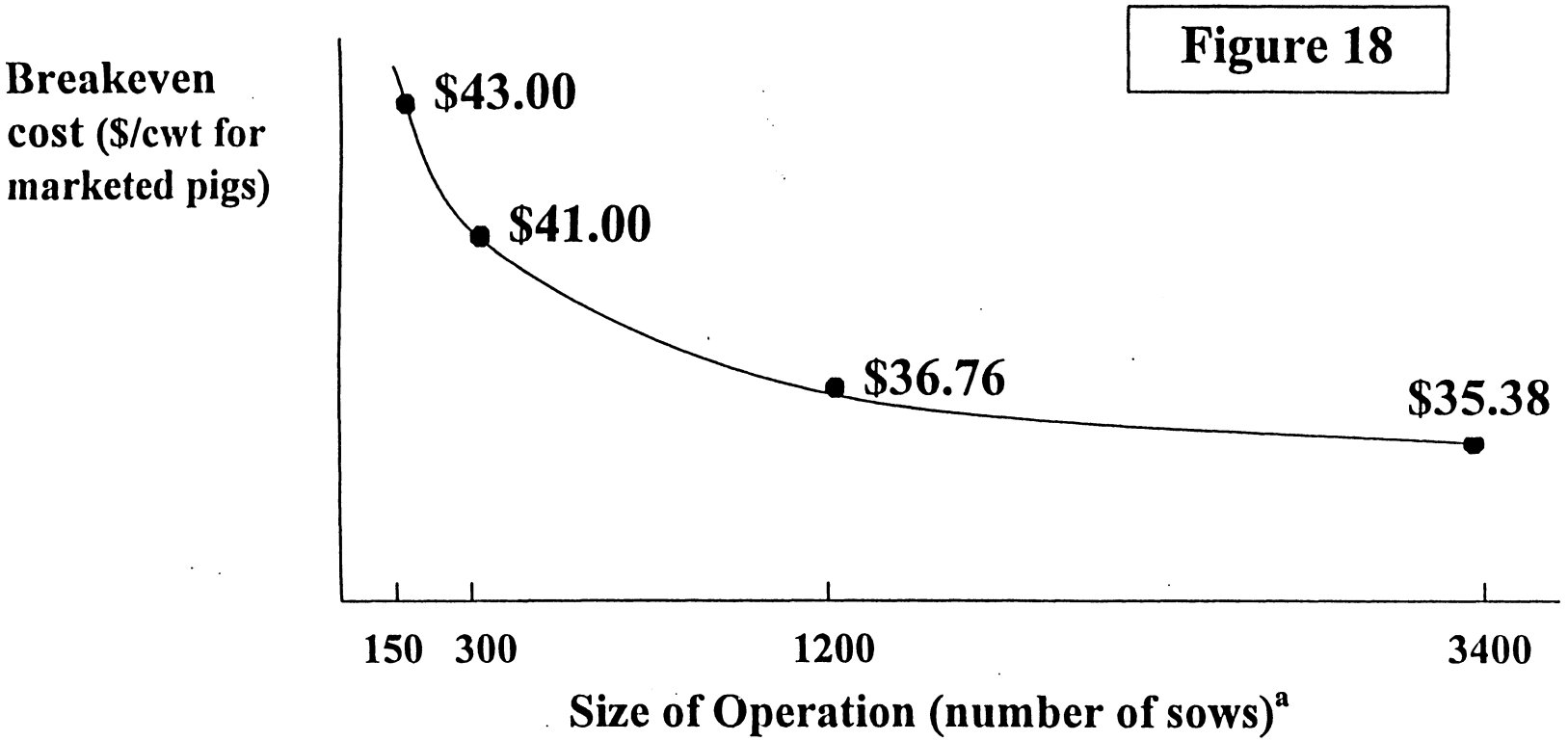
		1970-79			1980-89			1990-98*			
Commodity	Units	Ohio	U.S.	Ohio to U.S. Ratio**	Ohio	U.S.	Ohio to U.S. Ratio**	Ohio	U.S.	Ohio to U.S. Ratio**	Change in Ohio's Relative Price from 70s to 90s***
		$/unit	$/unit	%	$/unit	$/unit	%	$/unit	$/unit	%	$/unit
Corn	$/bu	2.12	2.10	101	2.48	2.46	101	2.52	2.45	103	0.05
Soybeans	$/bu	5.36	5.31	101	6.26	6.19	101	6.21	6.04	103	0.11
Wheat	$/bu	2.77	2.79	99	3.30	3.35	99	3.19	3.40	94	-0.19
Steers & Heifers	$/cwt	40.80	41.10	99	60.40	63.90	95	67.80	70.50	96	-2.19
All Milk	$/cwt	8.60	8.39	103	13.10	13.11	100	13.67	13.48	101	-0.15
Eggs****	$/doz	0.43	0.48	90	0.49	0.56	88	0.53	0.55	97	0.04
All Hogs	$/cwt	36.0	35.5	101	46.10	45.70	101	45.20	45.50	99	-0.94

* 1990-97 for Corn, Soybeans and Wheat
** Value for Ohio divided by Value for U.S.
*** Calculated as: ((ratio for 1970-79) times (U.S Price for 1990-98)) minus (Ohio Price for 1990-98)
**** All Eggs for 1970's; Market Eggs for 1980's & 90's

SOURCE: U.S. Department of Agriculture, National Agricultural Statistics Service, *B10*, 1970-1998.

Breakeven total costs/cwt for a 3400-sow farrow-to-finish operation is 18% below costs for a 150-sow operation in Midwest.

Figure 18



Source: Adapted from Daniel Otto, John Lawrence, and Dave Swenson, *Local Economic Impacts of Hog Production.* Iowa State University, Ames, 1996; and Kenneth Foster, Chris Hurt, and Jeffrey Dale, *Positioning Your Pork Operation for the 21st Century*, Department of Agricultural Economics, Purdue University, 1995.

[a]Presumes modern, state-of-the-arts hog production facility for 150, 300, 1,200, and 3,400 sows producing annual marketings of 2,851, 6,451, 28,853, and 75,072 finished hogs respectively.

Source: Tweeten, Luther & Carl Zulauf. "Ohio's Agriculture Tomorrow: A graphic summary of the past and appraisal of future prospects." Ohio State University Extension, Dept. of AED Economics. ESO 2521. 1998.

lower for 2,000 head building versus 500 head building.

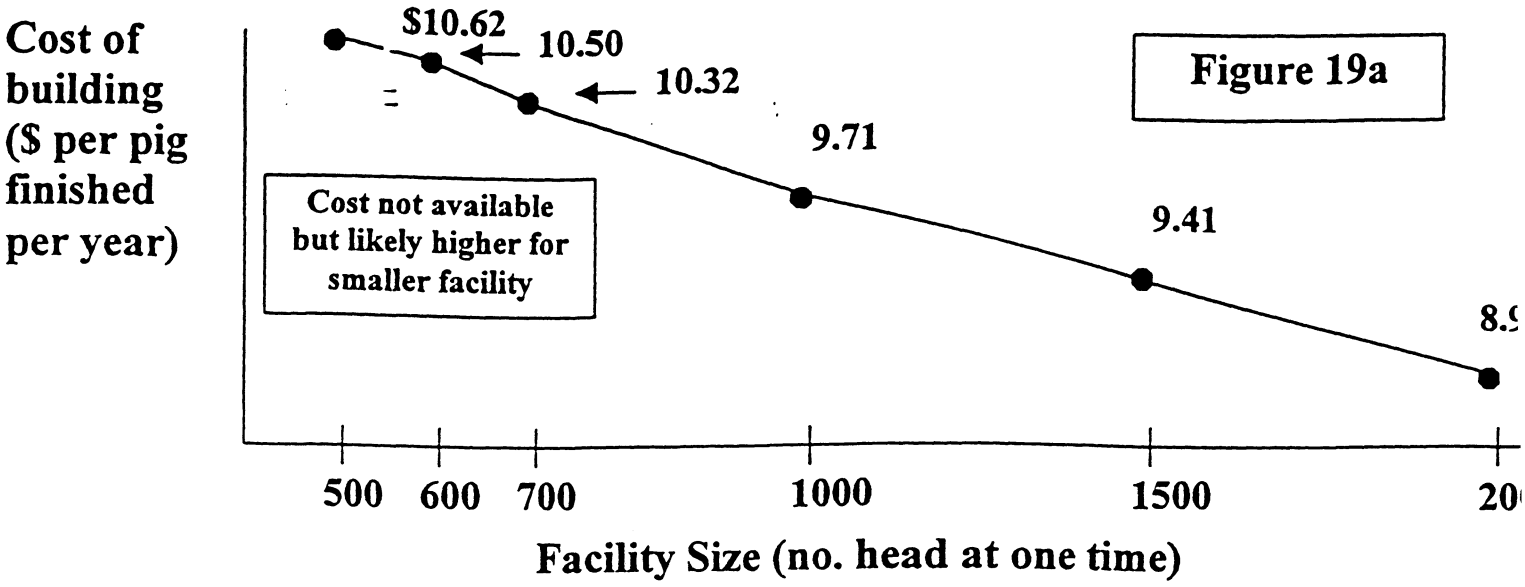
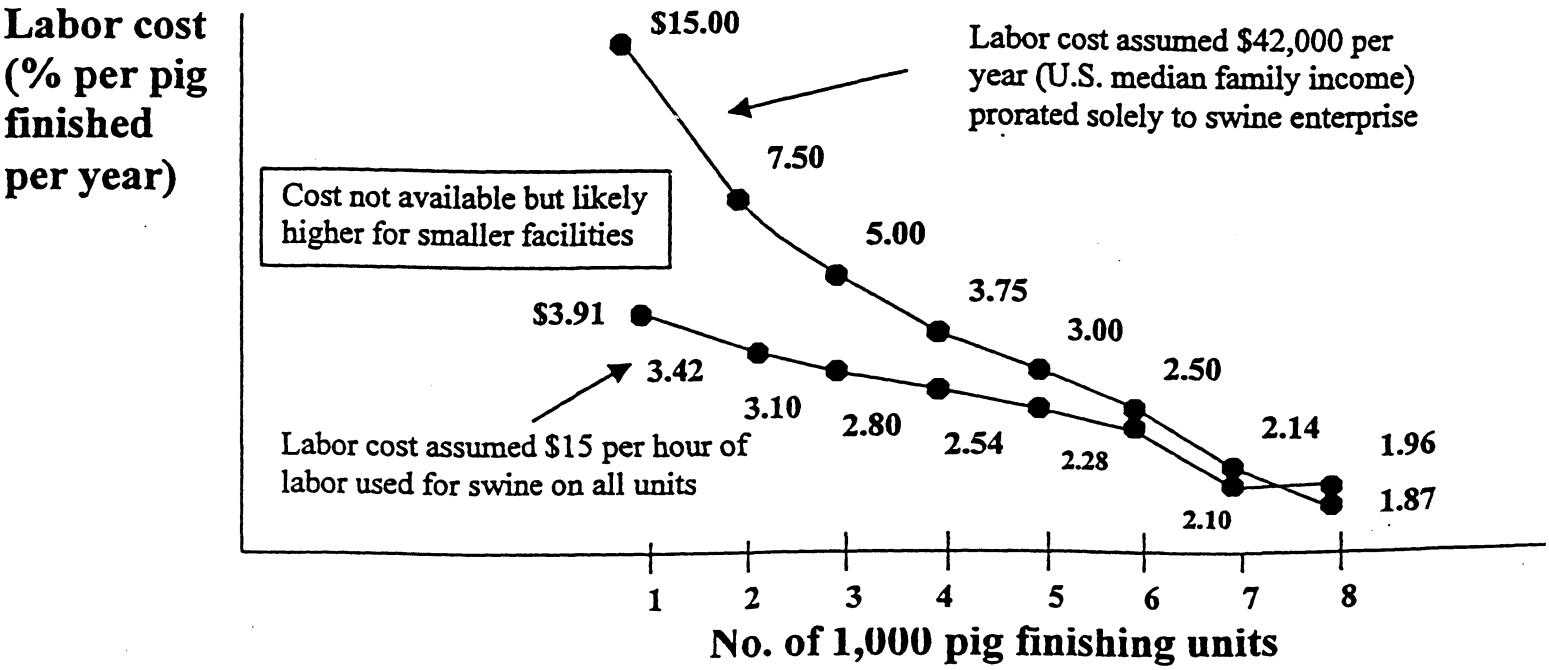


Figure 19a

Source Building capital cost data from Thomas Menke, swine environmental consultant, Greensville, Ohio, 1998 Includes 17% charge f depreciation (10 0%), interest (4 5%), repairs (1 7%), taxes (0 5%), and insurance (0 3%) from Gary Schnitkey, *Ohio Farm Enterprise Bud 1993*, Columbus, OH Ohio State University Extension, 1993

Figure 19b

Labor cost are 50% to 88% lower per pig for a swine finishing operation with eight 1,000 pig finishing units versus a single 1,00 pig unit.



Source Labor requirement data from Thomas Menke, swine environmental consultant, Greensville, Ohio U S median family income from U S Council of Economic Advisors, *Economic Report of the President* Washington, DC U S Govt Printing Office, 1998

Source: Tweeten, Luther & Carl Zulauf. "Ohio's Agriculture Tomorrow: A graphic summary of the past and appraisal of future prospects." Ohio State University Extension, Dept. of AED Economics. ESO 2521. 1998.